

April 2003

RAPID GEOLOGIC PROCESSES PART 1

Editors Note: The following is the first of a two-part article by Dr. Dan Reynolds. The final part will be published in the next newsletter.

There are many natural phenomena which evolutionary geologists say require many thousands or even millions of years to bring about. However, creationists have long held that most geologic processes can take place quickly if the conditions are right. Some of these phenomena include formation of the Precambrian granite "basement" rocks of the earth's crust, radioactive decay, canyon formation, petrified forest formation, coal formation, the rapid laying down of several successive sedimentary layers, formation of clastic dikes, formation of vast fossil graveyards, and stalagmite and stalactite formation.

Evidence for the rapid formation of the granite basement rocks of the continents has come from the study of polonium radiohalos.¹ Polonium is one of several elements in the uranium radioactive decay chain which ends in lead. Polonium decays by emitting alpha particles (helium nuclei) with kinetic energies characteristic of polonium. The alpha particles penetrate the surrounding rock, eventually coming to rest and converting into helium gas by picking up two electrons from the environment. The rock is discolored at the location the alpha particle comes to rest. After enough alpha particles have been emitted, a sphere of discoloration results. Cross sections of the sphere appear as a ring that is called a radiohalo. Eventually the decay products of polonium will be converted into lead. The lead formed can be analyzed for its isotopic composition. Different elements give different halo patterns and different lead isotope products.

Most elements which form radiohalos are thought to have been derived from uranium and moved through the granite by hydrothermal action. Indeed, the pathways or alpha recoil tracks connecting parent and daughter elements in granite can be detected, even if there is only one recoil event. Studies have shown that there are millions of polonium radiohalos in granites which have rings and lead that are derived only from polonium and that have no alpha recoil tracks connecting them with precursor elements. Another interesting fact about radiohalos is that they fade when heated to

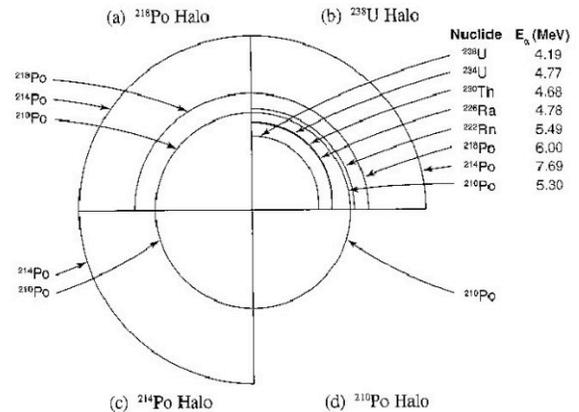


Diagram of radiohalos in granite formed by various radioisotopes. From: Larry Vardiman, ed., et al., *Radioisotopes and the Age of the Earth* (ICR, 2000), p.408

temperatures well below the melting point of granite. Since some polonium isotopes have short half-lives (one isotope has a half-life of less than 1 second), the only conclusion left to explain the parentless status of these radiohalos is fiat creation. In other words, the polonium must have been created at the same time as the granite and when the granite was relatively cool. This suggests that the basement granite rocks of the earth formed almost instantaneously, as if someone had spoken them into existence!

There is now rock solid evidence for rapid radioactive decay having occurred sometime in earth's history.² The helium formed from radioactive decay is often formed within granitic minerals called zircons within another mineral called biotite. Laboratory investigations have shown that the rates of diffusion of helium through zircons and biotite are rapid processes. The uranium radiohalos in biotite are often fully developed, having rings from many of uranium's daughter products and the lead isotope composition expected from several parents; much helium must have formed from all this decay. Interestingly, the amounts of helium found in biotites today is much larger than expected based upon the known rate of helium diffusion and the assumption that the rates of radioactive decay of uranium and its daughter products have always been what they are now. The hypothesis that explains all the data is one or more episodes of rapid and extensive radioactive decay in the

recent (last 6000 years) past; the helium has simply not had enough time to diffuse from the rocks. This idea also fits nicely with the lower than expected (assuming constant decay rates) amounts of helium found in the atmosphere. The episodes of rapid radioactive decay may have occurred during the first three days of creation week and the early stages of the Flood.

The volcanic eruptions at Mt. Saint Helens in the early 1980s were a gold mine for creation geologists.³ On May 18th, 1980 a volcanic eruption equivalent to 30,000 atomic bombs (Hiroshima) caused a loss of 1,300 feet in elevation; flattened 150 square miles of forest in six minutes, and resulted in a 0.5 cubic mile landslide. The landslide resulted in an 860-foot wave in nearby Spirit Lake, which washed a forest into the lake. Afterwards the lake was covered with 1 million logs without bark, branches, or roots.

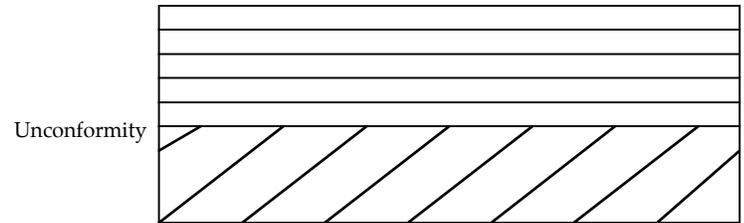
The landslide also left a crater and lava dome. Mud slides from three eruptions over a two year period formed over 600 feet of finely layered strata. A canyon 1/40 scale of the Grand Canyon was cut through solid rock in one day! The canyon now has a stream running through it giving the appearance that the stream cut the canyon over a long time span, but in fact the canyon was formed first. The potential for catastrophic events to do serious geological work was forever demonstrated.

The 600 feet of strata revealed extensive sorting and layering as if laid down by a slow uniform process over a long time span. Rapid successive sedimentary layer formation is also suggested in many places by the lack of bioturbation, the lack of soil layers, the presence of polystrate fossils, soft sediment deformation, and the limited extent of unconformities.⁴

Bioturbation refers to the evidence of biological activity which would be expected in a sedimentary layer if it had persisted uncovered long enough for a biological community to flourish. Lack of bioturbation in a layer suggests the layer did not remain uncovered for much time. Soils would also be expected to form on a layer, which remained uncovered; lack of soils between layers suggests little time between deposition of the layers.

The existence of polystrate fossils such as trees which extend dozens of feet through many layers clearly demonstrates rapid successive layer formation. Once layers are laid down they tend to dry out and become brittle over time. Then if an uplift event occurs in some locality, the brittle layers will crack and break where the layers were uplifted next to layers that remain in place. The uplift of layers without cracking suggests that the sediments were still soft when the uplift event occurred. The layers would have been soft during the uplift event only if they had been freshly laid down together. There are

sedimentary layers in the Kaibab monocline at Grand Canyon that make 90° turns due to uplift events yet without any evidence of cracking.⁵ Unconformities occur where the usual flat and parallel layering of sedimentary strata is disturbed by layers, which lie at an angle relative to the horizontal layers.



This structure suggests there was a significant period of time between the deposition of the horizontal and tilted layers. However, if the layers are followed out laterally far enough (hundreds of miles), one often finds that the tilted and horizontal layers become parallel with no evidence of an event between them. Thus the limited extent of unconformities shows that there may not have been the vast time spans between layer deposition initially suggested by the unconformity.

Clastic dikes are another evidence for rapid successive layer formation. Clastic dikes are vertical shafts of material cutting across several sedimentary layers. Some clastic dikes contain sand grains and are believed to have formed from the top down by the erosion and transportation of material down through openings in the layers. However, there are cases where the sand grains in the dike have the same particle size and distribution as deep laying sandstone layers. Evidently, the material originated in sandstone layers below and was raised and injected under pressure into the vertical openings in the layers above. The key fact is that the sandstone layers must have been soft for this process to work. This implies that the sandstone layer and all layers above it were relatively fresh when the dike was formed or, in other words, that the layers must have been deposited in the same timeframe. ❧

Dan Reynolds, PhD

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¹ Gentry, Robert V. *Creation's Tiny Mystery*, 3rd Edition (ESA, 1992); on the web at www.halos.com

² Vardiman, Larry. "RATE Group Confirms Fast Diffusion of Helium in Rocks". *Acts and Facts* 2001, 30(10); Vardiman, Larry; Snelling, Andrew A.; Chaffin, Eugene F. (eds.) *Radioisotopes and the Age of the Earth* (RATE) (Institute of Creation Research and the Creation Research Society, 2000).

³ Video: *Mount Saint Helens: Explosive Evidence for Catastrophe* (ICR)

⁴ Morris, John D. *The Young Earth* (Master Books, 1994)

⁵ Austin, Steven A. *Grand Canyon: Monument to Catastrophe* (ICR, 1994) (book and video).

EVIDENCES FOR CREATION OVER EVOLUTION

Editor's Note: The following is argument No. 8 of 21 arguments compiled by various persons who believe that true science and biblical Christianity go hand in hand. Earlier parts in this series covered arguments 1-7.

This was produced jointly by the Creation Research Society, St. Joseph, Missouri, and Skilton House Ministries, Philadelphia, Pennsylvania. Editors: Paul G. Humber and Glen W. Wolfrom. Contributors: Harry Akers, Robert Gentet, Ed Garrett, Lane Lester, Ron Pass, Dave Sack, Curt Sewell, Helen Setterfield, Doug Sharp, and Laurence Tisdall.

8. The theory of evolution depends on four things being true: enormous amounts of time, fortuitous chances, beneficial mutations, and natural selection. None of these four supports evolution at all:

TIME: Time tears things down; it does not build things up. If you leave a bicycle out in the weather, it rusts and falls apart—it does not become an automobile.

CHANCE is an argument proven wrong time and again. There is NO chance in the world or the universe or all time that something as complex as the “simple” cell could have evolved chemically. There is no chance mathematically or in any lab that life evolved accidentally. All efforts to get life to just happen with the right combination of chemicals and circumstances have resulted in utter failure.

MUTATIONS, or changes in the genetic structures of plants and animals, are almost always detrimental and often lethal. Those that remain in the genetic structure represent one of two things: accidental duplications of material or losses of material. In no case has any increase of meaningful information that can be used by the cell to produce a new form or function ever been observed. The idea that this not only happened once but consistently throughout several billion years to turn a single-celled organism into you is, however, required by evolution.

NATURAL SELECTION means that some sections of any population of animals will die without reproducing and that those that are left are more healthy and capable of maintaining the population, and also of supporting any beneficial changes occurring in that population helping it to evolve into something more fit. First of all, creationists do not oppose natural selection. We can see it happening—except for the fact that the populations don't become more fit, but often less fit. Gradually they can lose so many members that inbreeding is the final result. This encourages the bad mutations to continue as well as marking that population as only

able to exist in a very particular environment. They can no longer vary enough to allow their members to live outside that environment. We call them endangered species.

TASC ACTIVITIES

TASC participated in the Providence Baptist Church Missions Fair on the weekend of February 14-16. Mark Stephens talked to one of the Life classes on creation science. Thanks to Dan Reynolds, Ray Craig, Gerald Van Dyke, and Mark Stephens for setting up and manning our TASC display booth. This effort helped to expose a large number of people to TASC and its mission, creation science message, and availability of creation science materials.

A number of young people were inspired to share the creation science message with other young people. One young lady expressed a desire to get a degree in creation science possibly through the Institute for Creation Research college science program.

MEETING NEWS

At the March 13 TASC monthly meeting, Mark Stephens, MCS, spoke on “Dinosaurs, Thousands not Millions of Years Ago”. We had a good crowd including adults and children. Mark provided an update on scientific evidences that dinosaurs walked with man as indicated in the Bible. Mark cited dinosaur bone finds in the western United States and frozen bones in Alaska that included bone marrow with blood cell components. Because these fragile blood components could not possibly be preserved for millions of years, the dinosaurs from which these fossils came must have died no more than a few thousand years ago. Mark showed excerpts from a newly-completed video by the Institute for Creation Research on the very significant find in 2002 of an Allosaurus dinosaur (similar to Tyrannosaurus rex) in western Colorado by creation paleontologists and a group of home schoolers who were allowed a supervised assist in the excavation. Of great significance is that the Allosaurus fossil was about 70% complete with full head bones, representing only one in four found worldwide with a skeleton this complete. Found within and around the fossil skeleton were organic materials indicating a young age of thousands, not millions, of years old for the Allosaurus skeleton. Also significant is that the rights to this fossil were given to the Institute for Creation Research paleontologists because the land is owned by a Christian couple who wanted to avoid the usual naturalistic evolutionary spin given to dinosaur fossil finds.

COMING EVENTS

Thursday, April 10, 7:30 P.M., Providence Baptist Church, 6339 Glenwood Ave., Raleigh.

Dinosaurs, cave people, and the mysterious origins of the Pyramids—there is much we would like to be able to go back in time and see. How do they relate to the history of our world and to the Bible? Joe Spears will investigate some of these items, using history, archaeology, and the Bible.

Thursday, May 8, 7:30 P.M., Providence Baptist Church, 6339 Glenwood Ave., Raleigh.

Jeff Gift, PhD will speak on cosmic microwave background radiation and the recent "baby pictures" of the universe taken by the Wilkinson Microwave Anisotropy Probe (WMAP).

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